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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/673,376	09/30/2003	John A. Hughes	240720US6YA	4362
22850	7590	12/30/2005	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			ARANCIBIA, MAUREEN GRAMAGLIA	
			ART UNIT	PAPER NUMBER
			1763	

DATE MAILED: 12/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/673,376

Applicant(s)

HUGHES ET AL.

Examiner

Maureen G. Arancibia

Art Unit

1763

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) 2, 4-10, 12-17, 19, 21 and 23-39 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3, 11, 18, 20 and 22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group I, Claims 1-26 and 39, and further of Species A, the embodiment in which the active component is a solid, in the reply filed on 3 October 2005 is acknowledged. The traversal is on the ground(s) that 1) a search and examination would not place a serious burden on the Examiner, since the same sub-classes would have to be searched for all of the claims; and 2) that it would be a serious burden on Applicants to prosecute and maintain separate applications. This is not found persuasive because 1) while the searches for the inventions of the two different groups and the plurality of species may overlap, there is no reason to expect the scope of the searches to be *co-extensive*; and 2) it is Applicants' responsibility to determine how best to allocate resources of time and money for patent application prosecution, and this responsibility has no weight in determining the propriety of a restriction or election of species requirement.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 27-38 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected group, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 3 October 2005.

3. Applicant has identified Claims 1, 3, 11, 12, 18, 20, 22, and 23 as being drawn to the elected species A. However, it appears that Claims 12 and 23 would be properly examined with Species I, J, and K. Therefore, Claims 2, 4-10, 12-17, 19, 21, 23-26, and

39 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected group, there being no allowable generic or linking claim.

Applicant timely traversed the restriction (election) requirement in the reply filed on 3 October 2005.

4. Claims 1, 3, 11, 18, 20, and 22 will be examined as drawn to both the elected Group I and the elected Species A.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 3, 18, and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,556,500 to Hasegawa et al.

In regards to Claims 1 and 18, Hasegawa et al. teaches a semiconductor manufacturing system (Figure 1), comprising: a processing chamber 12; a substrate holder 14 configured to support a substrate S; a gas distribution system 34; a plasma source 46 coupled to the processing chamber; and a processing element 102 coupled to the substrate holder, said processing element comprising a passive component 104 configured to erode when exposed to a chemical process in the semiconductor manufacturing system (Column 9, Lines 40-46) and an active component 106 coupled to said passive component and configured to alter said chemical process when exposed to said chemical process. (Column 9, Lines 46-50)

In regards to Claims 3 and 20, the active component is a solid material. (Column 9, Lines 46-50)

7. Claims 1 and 3 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,947,053 to Burnham et al.

In regards to Claim 1, Burnham et al. teaches a processing element (Figure 3C), comprising a passive component 31 configured to be coupled to a semiconductor manufacturing system (Column 12, Lines 35-50) and to erode when exposed to a chemical process in said system, and an active component 33 coupled to said passive component and configured to alter said chemical process when exposed to said chemical process. (Column 7, Lines 15-23; Column 8, Lines 50-67)

In regards to Claim 3, Burnham et al. teaches that the active component 33 is a solid (*indicator layer*, Column 8, Line 58).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,464,843 to Wicker et al. in view of Burnham et al.

Wicker et al. teaches a semiconductor manufacturing system, comprising a processing chamber 10; a substrate holder 12; a gas distribution system 22; and a plasma source 18. (Figure 1)

Art Unit: 1763

In regards to Claims 18 and 20, Wicker et al. does not expressly teach the claimed processing element.

Burnham et al. teaches a processing element (Figure 3C), comprising a passive component 31 configured to be coupled to a semiconductor manufacturing system (specifically the processing chamber; Column 12, Lines 35-50) and to erode when exposed to a chemical process in said system, and a solid active component 33 (*indicator layer*; Column 8, Line 58) coupled to said passive component and configured to alter said chemical process when exposed to said chemical process. (Column 7, Lines 15-23; Column 8, Lines 50-67)

It would have been obvious to one of ordinary skill in the art to modify the semiconductor manufacturing system taught by Wicker et al. to include the processing element taught by Burnham et al. The motivation for making such a modification, as taught by Burnham et al. (Column 12, Lines 35-41), would have been to provide a means of indicating when a chamber liner has been compromised, in order to terminate operation of the system.

10. Claim 11 rejected under 35 U.S.C. 103(a) as being unpatentable over Burnham et al. in view of U.S. Patent 5,187,542 to Madzsar.

The teachings of Burnham et al. were discussed above in regards to Claim 1.

Burnham et al. does not expressly teach that the active component comprises a distribution of solid particles encapsulated within the passive component.

Madzsar teaches that solid active particles 10 are encapsulated within a passive component 12. (Figure 1)

It would have been obvious to one of ordinary skill in the art to modify the processing element taught by Burnham et al. to have the active component comprise a distribution of solid particles encapsulated with the passive component, as taught by Madzsar. The motivation for making such a modification, as taught by Madzsar (Column 3, Lines 5-7), would have been to allow the solid active component to be implanted in the passive component at a distance from the surface corresponding to a maximum allowable wear of the passive component.

11. Claim 22 rejected under 35 U.S.C. 103(a) as being unpatentable over Wicker et al. in view of Burnham et al. as applied to Claim 18, and further in view of U.S. Patent 5,187,542 to Madzsar.

The teachings of Wicker et al. and Burnham et al. were discussed above in regards to Claim 18.

The combination of Wicker et al. and Burnham et al. does not expressly teach that the active component comprises a distribution of solid particles encapsulated within the passive component.

Madzsar teaches that solid active particles 10 are encapsulated within a passive component 12. (Figure 1)

It would have been obvious to one of ordinary skill in the art to modify the system taught by the combination of Wicker et al. and Burnham et al. to have the active component comprise a distribution of solid particles encapsulated with the passive component, as taught by Madzsar. The motivation for making such a modification, as taught by Madzsar (Column 3, Lines 5-7), would have been to allow the solid active

Art Unit: 1763

component to be implanted in the passive component at a distance from the surface corresponding to a maximum allowable wear of the passive component.

Conclusion

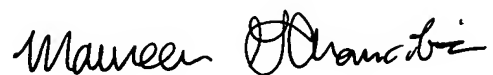
12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent 5,447,616 to Satou et al. teaches that the distribution of solid particles within a process component can vary in at least one of particle size, particle composition, and particle concentration. (Abstract)

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Maureen G. Arancibia whose telephone number is (571) 272-1219. The examiner can normally be reached on core hours of 10-5, Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on (571) 272-1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Art Unit: 1763



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